TABLE NO: [ ]

MULTIMEDIA UNIVERSITY

STUDENT ID NO [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2019/2020

PCR0025 – CRITICAL THINKING

(All Sections / Groups)

21 OCTOBER 2019
9.00 A.M – 11 A.M
(2 Hours)

INSTRUCTIONS TO STUDENT

1. This question paper consists of **17 pages.**

2. Shade your answers in the multiple-choice answer sheet provided.

Multiple - Choice Questions

Instructions: Select one best answer and please shade your answer in the appropriate column in the multiple-choice answer sheet provided.

1. Which of the following is the most *accurate* description of the term "*science*"?
   A. The method of accumulating vast knowledge of the universe.
   B. The method of making new discoveries of the supernatural world.
   C. The method of finding, testing and proving the truths of the natural world.
   D. The method of inquiry to describe, explain, predict and modify the physical world.

2. Which of the following statements regarding a *controlled study* in science is FALSE?
   A. A placebo is administered to the control group and not the experimental group.
   B. A controlled study usually involves both an experimental group and a control group.
   C. In a double-blind test, the scientists and test subjects know the experiment's purpose.
   D. To determine the effectiveness of a drug, the experimental group is treated with the drug being tested while the control group is not.

3. Which of the following statement is TRUE?
   A. Astrology and astronomy are both valid sciences that are widely practiced.
   B. A scientific claim that is falsifiable in principle denotes that it is completely false.
   C. Science is progressive as it changes when hypotheses are confirmed or shown false.
   D. Pseudoscience can be regarded as a special science practiced by an elite group of people.

4. With reference to the four items provided below, choose the sequential order that BEST represents the basic pattern of *scientific reasoning*.
   I *Formulate hypotheses*
   II *Test hypotheses*
   III *Identify the problem*
   IV *Gather relevant data*

   A. III → IV → I → II
   B. III → II → IV → I
   C. III → I → II → IV
   D. III → IV → II → I

Continued...

5. What differs between an experimental group and a control group?
   A. The characteristics of the participants.
   B. Nothing except the experience of the independent variable.
   C. Only the control group experiences the independent variable.
   D. Only the experimental group is measured for the dependent variable.

6. A *control group* is needed in a controlled study because it ensures that _____.
   A. the experimental data is backed up by a set of data by the tester
   B. it is the experimental data and not other sources of data which is valued
   C. the study is done under two conditions so that more data can be obtained
   D. it is the substance tested and not other factors that explains apparent causal effects

7. Which of the following questions cannot be answered by *science*?
   A. What is the wisdom behind failures?
   B. Does providing feedback improve performance?
   C. Is there a connection between class attendance and one's test score?
   D. Can a dose of 3000 mg of calcium prevent osteoporosis among the elderly?

8. What is a theory?
   A. A preliminary proposal that has yet to be tested.
   B. A statement of research results that have been proven correct.
   C. A system of interrelated ideas used to explain a set of observations.
   D. A tentative statement about the relationship between two or more variables.

9. Which of the following statements is one of the characteristics of *pseudoscience*?
   A. It is peer-reviewed in an open and dynamic process.
   B. It uses clear and precise language to make specific predictions.
   C. It is dismissive of falsifying data and does not take these data into account.
   D. It involves studies carried out by many individuals to test various hypotheses.

10. Which of the following explanations BEST describes the term "*scientism*"?
    A. It argues that science is worshipped as a method of seeking knowledge.
    B. It subscribes to the view that science is the only way of knowing anything.
    C. It is a belief system which emphasizes the importance of the scientific method.
    D. It rejects everything else that is regarded as contrary to established scientific "truths".

Continued...

11. Which goal of science is most closely associated with determining how to treat phobia and identify lying?
    A. Testing and reporting
    B. Modify and description
    C. Prediction and explanation
    D. Explanation and description

12. What does a researcher do when conducting an experiment?
    A. Observation of behaviour as it occurs in its natural environment.
    B. In-depth investigation of an individual subject through detailed documentation.
    C. Systematic observation or measurement of two variables to see whether there is an association between them.
    D. Manipulation of a variable under carefully controlled conditions and observation of whether there are changes in a second variable as a result.

13. Phong and Mikaela both take part in a research study that is investigating the effects of sleep deprivation on reaction time. Phong is kept awake for 24 hours straight, while Mikaela follows her normal sleep routine. Which group is Phong in?
    A. The control group
    B. The experimental group
    C. The dependent variable group
    D. The independent variable group

14. A group of researchers wanted to determine whether children would behave more aggressively after watching television programming. One third of the children in the study watched a violent television show and one third of the children watched a non-violent television program. If the remaining children are in a control group, what should happen to them?
    A. They should listen to the radio.
    B. They should not watch a television show.
    C. They should be the group monitored for violent behaviour.
    D. Half should watch a violent show and half should watch a non-violent show.

15. Diaz conducts a decision-making experiment to determine if people reason more logically when they have more time to decide. All the participants who are under 40 are allowed 15 minutes to reach a decision about a problem; all the participants who are over 40 are allowed 20 minutes to reach a decision about the same problem. What is the problem with this experimental design?
    A. There is no dependent variable in the experiment.
    B. There are two control groups and no experimental group.
    C. The age of the participants is confounded with the independent variable.
    D. The time allowed for the decision is confounded with the independent variable.

Continued...

16. The following are all conclusion indicators EXCEPT _____.
    A. given that
    B. proves that
    C. implies that
    D. for this reason

17. A non-argument that is intended to provide examples of a claim rather than to prove or support a claim is called _____.
    A. illustrations
    B. explanations
    C. conditional statements
    D. unsupported statements

18. All of the following are true regarding hypothetical syllogism EXCEPT _____.
    A. it contains at least one conditional statement or premise
    B. modus ponens is a valid form of a hypothetical syllogism
    C. it is a common pattern often found in inductive reasoning
    D. denying the antecedent is not a reliable form of reasoning

19. Premise 1: *"If North Korea has weapons of mass destruction, it is a threat."*
    Premise 2: *"North Korea does not have weapons of mass destruction."*
    Conclusion: *"Therefore, North Korea is not a threat."*

    The above argument is an example of _____.
    A. denying the antecedent
    B. affirming the consequent
    C. denying the consequent (*modus tollens*)
    D. affirming the antecedent (*modus ponens*)

20. Which of the following sentences is a statement?
    A. What is your current employment status?
    B. Please do not begin writing your test answers now.
    C. Enter your personal details in the highlighted columns.
    D. It is important to watch your daily diet if you are unhealthy.

21. Which of the following sentences is a statement?
    A. Do you happen to know your grandmother's favourite Korean movie?
    B. Don't you realize how unreasonable it is for you to expect her to call you?
    C. Have you completed the essay that you are supposed to submit this Thursday?
    D. How did you manage to locate the apartment of your friend after all these years?

Continued...

22. The following are all premise indicators EXCEPT _____.
    A. as
    B. for
    C. because
    D. consequently

23. Which of the statements below is TRUE?
    A. An exclamation is a nonstatement with a truth value.
    B. "*As a result*", "*accordingly*" and "*so*" are premise indicators.
    C. An ought imperative asserts a command and considered as nonstatement.
    D. The argument "*If A, then B. It is B. Therefore A.*" is not logically reliable.

24. "How can anyone of sound mind believe that late-term abortion is acceptable? Abortion robs an unborn baby of its right to live and the procedure is crude and painful. Also, many countries have made it illegal for anyone to carry out late-term abortion."

    Which of the answers below BEST describes the group of statements above?
    A. Argument
    B. Non-argument: illustration
    C. Non-argument: explanation
    D. Non-argument: unsupported statement of belief or opinion

25. "My grandfather, who originated from Indonesia, made the long, perilous journey from Indonesia to Malaysia by boat. He did so because life was hard there and food was constantly in short supply. Besides that, he was also in need of a job to earn a living."

    Which of the answers below *best* describes the group of statements above?
    A. Argument
    B. Non-argument: illustration
    C. Non-argument: explanation
    D. Non-argument: unsupported statement of belief or opinion

26. The following passage is an example of a/an _____: "If Senator Brooks is only thirty years old, then he's not eligible to be the president of the United States."

    A. argument
    B. non-argument: illustration
    C. non-argument: explanation
    D. non-argument: conditional statement

Continued...

27. The following sentence is a/an _____: "I'd rather be in Philadelphia."
    A. argument
    B. statement
    C. non-statement
    D. non-argument: explanation

28. The following sentence is a/an _____: "Young children should not be permitted to go diving because it is too dangerous."
    A. argument
    B. statement
    C. non-statement
    D. non-argument: explanation

29. "Yesterday, I got sick after eating Wendy's, so I won't go there for lunch today."

    Which of the answers below *best* describes the group of statements above?
    A. nonargument; explanation
    B. nonargument; unsupported assertion
    C. argument; conclusion: I won't go there for lunch today.
    D. argument; conclusion: Yesterday I got sick after eating Wendy's.

30. "Identical twins often have different IQ test scores. Yet such twins inherit the same genes. So, _____."
    A. environment must play some part in determining IQ
    B. genetic factors must play some part in determining IQ
    C. other identical twins often have different IQ scores too
    D. non identical will have more different IQ scores compared to identical twins

31. Which of the following is an indicator word or phrase for an inductive argument?
    A. Likely
    B. Certainly
    C. Definitely
    D. Conclusively

32. Premise 1: *"If it rains, it is cloudy."*
    Premise 2: *"It rains."*
    Conclusion: *"Therefore, it is cloudy."*

    The above argument is an example of _____.
    A. denying the antecedent
    B. affirming the consequent
    C. denying the consequent (*modus tollens*)
    D. affirming the antecedent (*modus ponens*)

Continued...

33. Premise 1: *"If Ali is late for work, he will not attend the meeting."*
Premise 2: *"Ali is not late for work."*
Conclusion: *"Therefore, Ali will attend the meeting."*

The above argument is an example of _____.
A. denying the antecedent
B. affirming the consequent
C. denying the consequent (*modus tollens*)
D. affirming the antecedent (*modus ponens*)

34. "This job description is inadequate because it is too vague. It doesn't even list the specific tasks that should be performed, and it doesn't say how my performance will be evaluated."

The above argument has _____ premises.
A. 1
B. 2
C. 3
D. 4

35. Premise 1: "We should reject foods that aren't found in nature."
Premise 2: _____.
Conclusion: "Therefore, we should ban GMO crops."

Which of the following statements below does fit premise 2?
A. GMO crops are unhealthy
B. GMO crops are not foods
C. GMO crops are not natural
D. GMO crops are harmful to the society

36. "The use of animals in medical and scientific experimentation is of vital importance and must continue."

Which of the following statements below does suit to be the premise for the conclusion above?
A. Hence, animals should be treated well in experimentation.
B. Animals are living creatures and their right must be protected.
C. Animal experimentation has resulted in treatments that have saved countless human lives.
D. The use of animals in medical and scientific experimentation is justified and should not be criticized.

Continued...

37. If an inductive argument has a false premise, then we know the argument is _____.
    A. weak
    B. invalid
    C. unsound
    D. uncogent

38. All of the following are common patterns of inductive reasoning EXCEPT _____.
    A. causal argument
    B. argument from analogy
    C. argument from authority
    D. argument from definition

39. A "good argument" is _____.
    A. deductively sound and inductively cogent
    B. highly persuasive and can influence other people easily
    C. well-written and uses strong language to assert the points made
    D. in agreement with the views of the person who makes the argument

40. "Eight percent of the students at State College graduate Summa Cum Laude. Sam is a student at State College. So, Sam probably graduated Summa Cum Laude."

    The above argument is _____.
    A. weak
    B. cogent
    C. invalid
    D. unsound

41. "It is not the case that Mugsy robbed the bank or held up the liquor store. If Mugsy did not rob the bank then he has been wrongly prosecuted. So, Mugsy has been wrongly prosecuted."

    The above argument is _____.
    A. weak
    B. valid
    C. strong
    D. invalid

Continued...

42. "All animal-lovers are benevolent persons. All caring persons are benevolent. So, all animal-lovers are caring persons."

The above argument is _____.

A. weak
B. valid
C. strong
D. invalid

43. "Some Aquarians are not Bedouins. Some Bedouins are cell-phone users. So, some Aquarians are cell-phone users."

The above argument is _____.

A. weak
B. valid
C. strong
D. invalid

44. "If it rains, you need an umbrella. You do not need an umbrella. So, it is not raining."

The above argument is _____.

A. weak
B. valid
C. strong
D. invalid

45. If a deductive argument has true premises and a false conclusion, then the argument is _____.

A. weak
B. invalid
C. uncogent
D. strong but not necessarily uncogent

46. A strong argument must have _____.

A. probably true premises
B. a probably true conclusion
C. both a and b
D. none of the above

Continued...

47. If a deductive argument has a false premise, then the argument is _____.
    A. weak
    B. unsound
    C. uncogent
    D. all of the above

48. "Every staff in my department has paid for the dinner. Mariam has paid for the dinner. Therefore, Mariam is a staff of my department."

    The above argument is _____.
    A. weak
    B. valid
    C. strong
    D. invalid

49. "If Jane has a cat, then Jane has a pet.
    Jane does not have a cat.
    Therefore, Jane does not have a pet."

    The above argument is _____.
    A. weak
    B. valid
    C. strong
    D. invalid

50. "If Jane has a cat, then Jane has a pet.
    It is not the case that Jane has a pet.
    Therefore, it is not the case that Jane has a cat."

    The above argument is _____.
    A. weak
    B. valid
    C. strong
    D. invalid

51. In a stable, there are men and horses. In all, there are 22 heads and 72 feet. How many men and how many horses are in the stable?
    A. 15 horses and 7 men
    B. 13 horses and 9 men
    C. 14 horses and 8 men
    D. 11 horses and 11 men

Continued...

52. In a pond, there are some flowers with some bees hovering over them. How many flowers and bees are there if both the following statements are true: 1. If each bee lands on a flower, one bee doesn't get a flower. 2. If two bees share each flower, there is one flower left out.
A. 2 bees and 2 flowers
B. 3 bees and 2 flowers
C. 4 bees and 3 flowers
D. 5 bees and 4 flowers

53. You are a detective and have been hired to locate a suspect in an old resort hotel. Strong signs indicate that the suspect hides behind one of four doors. The inscriptions on each door read as follows:

Door A: Its behind B or C
Door B: Its behind A or D
Door C: Its in here
Door D: Its not in here

Your clues showed that three of the inscriptions are false, and one is true. Behind which door will you find the suspect?
A. Door A
B. Door B
C. Door C
D. Door D

54. If Delta is an alpha, then Delta is a beta.
If Delta is a theta, then Delta is a beta.
Either Delta is an alpha or Delta is a theta.
Therefore, _____.

A. Delta is a beta
B. Delta is a theta
C. Delta is an alpha
D. Delta is an alpha and a beta

55. In poker, it is okay to lie and deceive. Business is like poker, therefore, it is okay to lie and deceive.

The above argument is _____.
A. sound
B. cogent
C. unsound
D. uncogent

Continued...

56. "This bathwater is tepid. It follows that it is neither extremely hot nor extremely cold."

The above argument is _____.

A. weak
B. valid
C. strong
D. invalid

57. "If John calls, then that means he needs someone to talk to.
John does not call. Therefore, that means he does not need someone to talk to."

The above argument is _____.

A. weak
B. valid
C. strong
D. invalid

58. "Kyle is a father; it follows that Kyle has a child."

The above argument is an example of _____.

A. Causal argument
B. Categorical syllogism
C. Hypothetical syllogism
D. Argument by definition

59. "Every argument is either deductive or inductive. Because this argument isn't deductive, it must be inductive."

If all the premises in the above argument are true, then the above argument is _____.

A. sound
B. cogent
C. unsound
D. uncogent

60. "If Wendy got an "A" in her Anatomy and Physiology class, then her best friend took her out to celebrate. Her best friend did take her out to celebrate. Therefore, Wendy did get an "A" in her Anatomy and Physiology class." This argument is _____.

A. weak
B. valid
C. strong
D. invalid

Continued...

Questions 61-80: Identify the fallacies committed in the arguments.

61. "My wife is blonde, attractive, and appreciates it when I give her sexy lingerie for Valentine's Day. My secretary is also blonde and attractive. Therefore, she would appreciate it if I gave her sexy lingerie for Valentine's Day."

A. Red herring
B. Weak analogy
C. False alternatives
D. Bandwagon argument

62. "95% of Fortune 500 companies use this supply chain management system, therefore, this is the right choice for you."

A. Red herring
B. Weak analogy
C. False alternatives
D. Bandwagon argument

63. Social media "Why should I listen to you? You are from Australia, and Australians are stupid."

A. Equivocation
B. Appeal to pity
C. Personal attack
D. Begging the question

64. You are having social media arguments with somebody online and they take offense at something you say, and you say, "Well, you know what? This does not surprise me. You are always being offended. You are a snowflake"

A. Equivocation
B. Appeal to pity
C. Personal attack
D. Strawman fallacy

Continued...

65. *Tom*: I can kick you.
Huck: What makes you think you can kick me?
Tom: Because I'm tougher than you are.
Huck: What makes you think you are tougher than I am?
Tom: Because I can kick you.

A. Straw man
B. Equivocation
C. Begging the question
D. Two wrongs make a right

66. "Professor Stanton M. Buttersworth conducted extensive and long-term studies of the television-watching habits of school children. On the basis of these studies, Professor Buttersworth has concluded that children who watch more than two hours of television a day do not perform as well in school as those who watch less than two hours a day. But Professor Buttersworth must be wrong about that. Television is a source of news, entertainment, and information--and all for an extremely modest cost. Life would be much less interesting without television."

A. Straw Man
B. Red Herring
C. Personal Attack
D. Attacking the Motive

67. "Those scientists are only promoting global warming because they want more funding."

A. Straw Man
B. Red Herring
C. Personal Attack
D. Attacking the Motive

68. "Do you think we should convict this criminal?"

A. Weak analogy
B. Loaded question
C. Appeal to ignorance
D. Inappropriate appeal to authority

Continued...

69. A clerk who steals money from her company justifies her actions by saying that the company has been overcharging customers for years.

A. Weak analogy
B. Attacking the motive
C. Two wrongs make a right
D. Inappropriate appeal to authority

70. "No! Don't eat that piece of chocolate. Today, it's one piece of chocolate, but tomorrow, you've gained 10 kg!"

A. Red herring
B. Scare tactics
C. Slippery slope
D. Hasty generalization

71. "I won't accept your argument asking me to stop smoking, because you used to smoke when you were my age. You did it, too!"

A. Equivocation
B. Personal attack
C. Look who's talking
D. Begging the question

72. Sarah ignores an email that says she should forward it or she will be unlucky. On the way home that day, she has a flat tire. She wishes she had sent the email.

A. Bandwagon
B. Scare tactics
C. Questionable cause
D. Hasty generalization

73. "It is expected that we only do what is right. We have the right to eat as much as we want. Therefore, it is right to eat as much as we want."

A. Bandwagon
B. Equivocation
C. Red Herring
D. Hasty generalization

Continued...

74. "Dear Mr. Ferguson, I am sure you will agree that after three years working as head of company security, I am long overdue for a raise. By the way, may I respectfully suggest that you make sure the surveillance cameras are turned off next time you and your secretary need to 'catch up on some paperwork'?"

A. Bandwagon
B. Scare tactics
C. Appeal to pity
D. Hasty generalization

75. Boss: "You are late for work. I'm going to have to write you up."
Employee: "Please don't write me up. If I get fired, I'll lose my house and not have any way to feed my family."

A. Bandwagon
B. Scare tactics
C. Appeal to pity
D. Hasty generalization

76. "I thought I had every reason to think I was doing fine leading the group; no one complained."

A. Weak analogy
B. Appeal to Ignorance
C. Hasty Generalization
D. Inappropriate appeal to authority

77. "Learning Japanese is so easy. Everything was a piece of cake on the first day of the class."

A. Weak analogy
B. Appeal to Ignorance
C. Hasty Generalization
D. Inappropriate appeal to authority

78. "There is no evil in this world. Though evil exists in some parts of the world, we will overcome it sooner or later."

A. Bandwagon
B. Scare tactics
C. Inconsistency
D. Questionable cause

Continued...

79. "Be my friend or be my enemy."

A. Equivocation
B. Scare tactics
C. False alternative
D. Attacking the motive

80. "I agree with Alec Baldwin's stance on global warming. He must know what he's talking about, being a famous celebrity and all."

A. Red Herring
B. Look who's talking
C. Hasty Generalization
D. Inappropriate appeal to authority

End of paper